

## Abstract

### IMPROVING RECEPTION OF DATA IN DSL MODEMS

A modem operating in a narrow voltage range while maintaining a high signal to noise ratio during reception. The modem may contain a coder-decoder (CODEC ) and a transformer. The CODEC receives data using more windings of a primary coil than the number of windings used for transmitting. As a result, the turns ratio is higher during transmission, leading to a correspondingly high amplification during transmission. The high amplification in the transmit direction enables the modem to operate in a narrow voltage range. As more windings of the primary coil are used for receiving, a signal of interest received from the telephone line is attenuated to a corresponding lesser degree, which leads to a high signal to noise ratio.

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